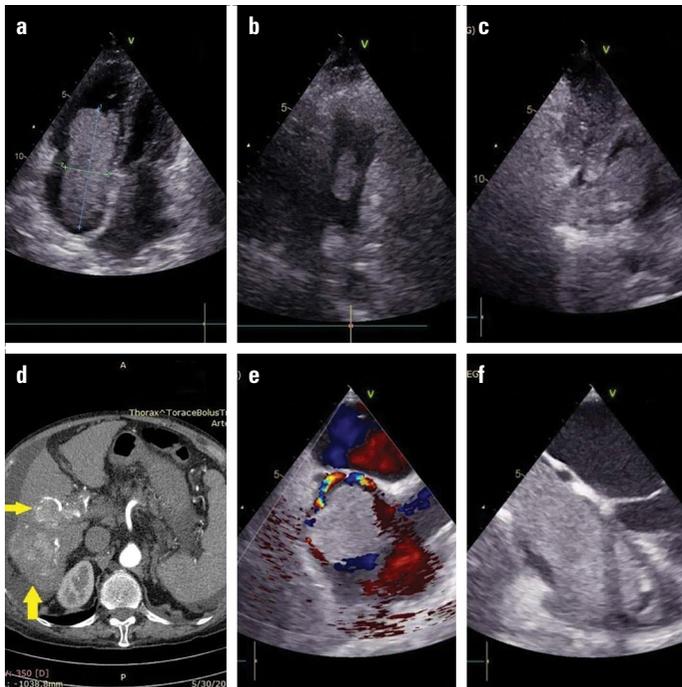


## Giant thrombus occupying the right cardiac chambers in a cancer patient: An unusual and incidental discovery 🎥

A 76-year-old woman with existing uninvestigated chronic hepatitis B presented with resting dyspnea and bilateral leg swelling. The patient was hemodynamically stable with a significant tricuspid murmur. Laboratory findings highlighted important hepatic cytolysis, moderate anemia, and increased D-dimers. Transthoracic echocardiography revealed a large, well-defined echogenic mass (30/80 mm) with hypoechoic central areas that occupied the right atrium (RA) almost entirely, protruded into the right ventricle (RV), and significantly obliterated the tricuspid valve (Fig. 1, Panel A, Supplementary Video S1). The mass also extended into the RV outflow tract with some smaller fragments protruding into the pulmonary artery (PA) (Fig. 1, Panel B). The subcostal view revealed that the mass seemed to originate from the inferior vena cava (IVC), which suggested a thrombus (Fig. 1, Panel C). Computed-tomography (CT) consistently showed subsegmentary pulmonary embolism and revealed that the mass had completely filled the IVC. Additionally, multiple heterogenous, hypervascular liver nodules (Fig. 1, Panel D) associated with significant abdominal lymphadenopathy were observed, which are highly consistent with a



**Figure 1.** Panel figure. (a) Well-defined giant mass occupying the right atrium (RA), protruding into the right ventricle (RV), and significantly obliterating the tricuspid valve; (b) protrusion in the pulmonary artery (PA); (c) origin site in the inferior vena cava (IVC); (d) highly typical CT for hepatocellular carcinoma diagnosis (arrows); (e, f) transesophageal echocardiography revealing a giant mass occupying the right chambers

diagnosis of hepatocellular carcinoma (HCC). Transesophageal echocardiography from both midesophageal bicaval view (Fig. 1, Panel E, Supplementary Video S2) and four-chamber view (Fig. 1, Panel F) highlighted the highly mobile mass that occupied the right chambers and extended into the PA and therefore, blocked both the RV inflow and outflow tract. However, few hours after admission and despite the attempted rescue thrombolysis, the patient experienced sudden cardiac arrest. HCC patients are known to have an increased risk of thrombosis; however, a giant metastatic thrombus that extends from the IVC to the PA is still considered an unusual presentation of HCC.

**Informed consent:** The informed consent was obtained from the patient.

**Supplementary Video S1.** Transthoracic echocardiography, subcostal view: giant mass occupying the right atrium (RA), protruding into the right ventricle (RV), and significantly obliterating the tricuspid valve.

**Supplementary Video S2.** Transesophageal echocardiography, midesophageal bicaval view revealing highly mobile mass occupying the right chambers.

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## Near complete resolution of nonbacterial thrombotic endocarditis in a patient with antiphospholipid antibody syndrome 🎥

A 64-year-old woman with a medical history significant for cirrhosis, portal vein thrombosis on rivaroxaban, cerebrovascular accident, antiphospholipid antibody syndrome (APLS), and streptococcus mitis endocarditis with complete resolution underwent a routine screening transthoracic echocardiogram, which demonstrated new mitral valve vegetations on both the anterior and posterior leaflet tips with moderate-severe mitral valve regurgitation. A transesophageal echocardiogram dem-

onstrated irregular, mesoechoic, and mobile vegetations attached to the P2 (largest, 1.4×0.9 cm) and A2 leaflets (largest, 1.3×0.8 cm), with moderate-severe commissural regurgitation (Fig. 1). Further work-up ruled out infectious endocarditis and suggested nonbacterial thrombotic endocarditis (NBTE) as the underlying etiology. The patient was transitioned from rivaroxaban to warfarin. After 8 weeks of warfarin therapy, a repeat transesophageal echocardiogram was performed and showed complete resolution of the P2 leaflet vegetation, reduction in size of mass on the A2 leaflet (1.2×0.3 cm), and significant improvement in mitral regurgitation from moderate-severe to mild (Fig. 2). At the time of this report, she is currently maintained on warfarin therapy and is being monitored with serial transthoracic echocardiogram.

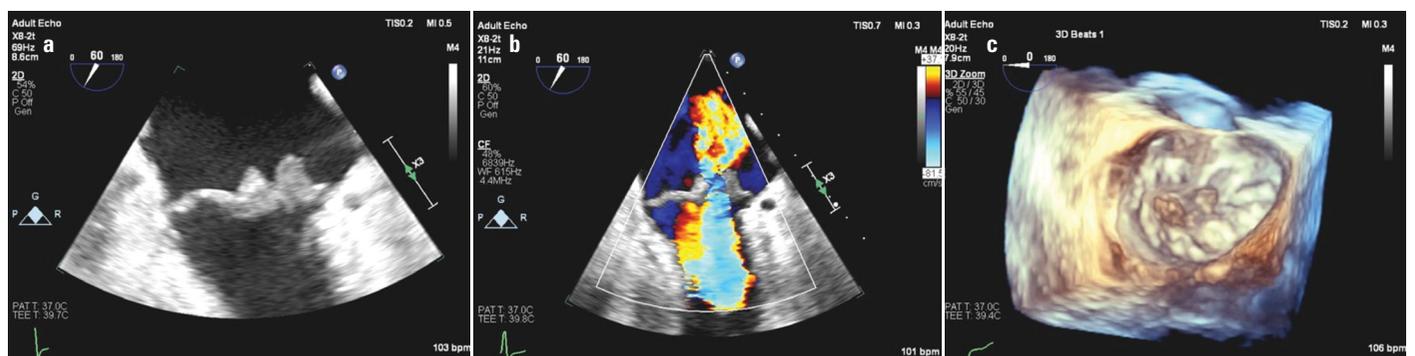
NBTE is an uncommon entity, most commonly associated with malignancy or autoimmune disease, such as APLS (1). The estimated prevalence of NBTE ranges from 0.3% to 9.3% (2). In patients with APLS, as many as one-third develop cardiac valve disease (3, 4). The case reported here represents a rare occurrence of near resolution of NBTE and improvement in mitral valve

regurgitation with warfarin therapy, obviating the need for surgical intervention.

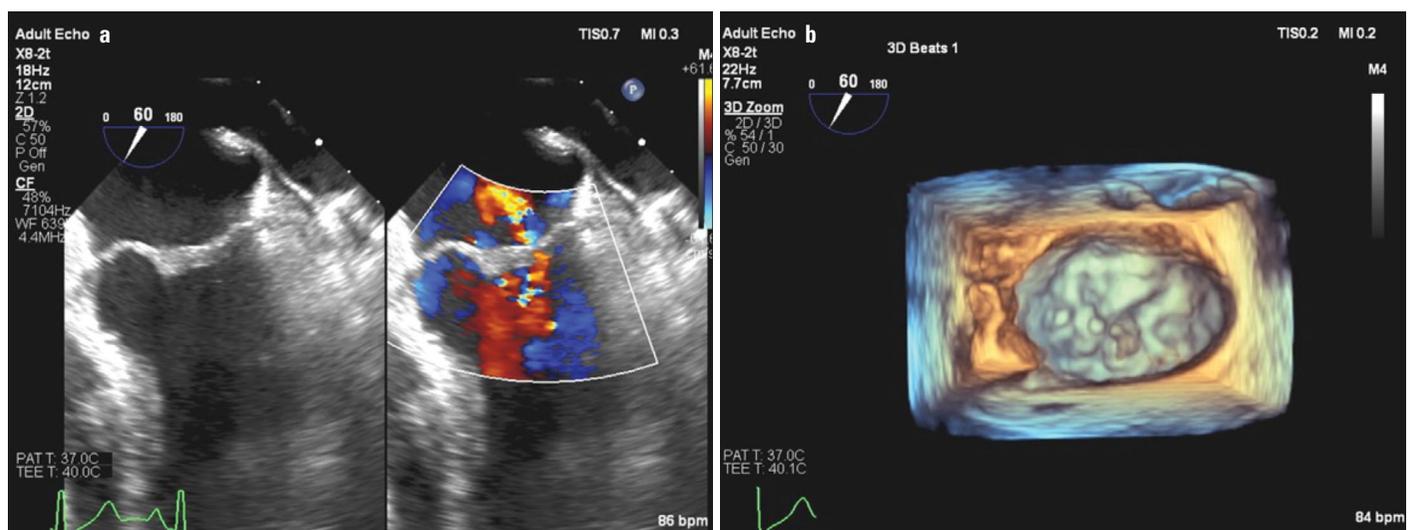
**Informed consent:** The informed consent was obtained from the patient.

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**Figure 1.** (a) Transesophageal echocardiogram demonstrating a 1.4×0.9 cm mass on the P2 leaflet and a 1.3×0.8 cm mass on the A2 leaflet. (b) Color Doppler image demonstrating moderate-severe mitral valve regurgitation. (c) 3-dimensional transthoracic echocardiogram demonstrating a 1.4×0.9 cm mass on the P2 leaflet and a 1.3×0.8 cm mass on the A2 leaflet



**Figure 2.** (a) Transesophageal echocardiogram demonstrating near complete resolution of the mass on the posterior leaflet and mild mitral valve regurgitation on color flow Doppler. (b) 3-dimensional transesophageal echocardiogram demonstrating a residual 1.2×0.3 cm mass on the A2 leaflet

**Supplementary Video 1.** Post-treatment combined video illustrating the resolution of a mass on the P2 leaflet, near resolution on the A2 leaflet, color Doppler demonstrating improvement in mitral regurgitation, and 3-dimensional transesophageal echocardiogram.

**Supplementary Video 2.** Pre-treatment combined video illustrating the masses on the A2 and P2 leaflets, color Doppler with moderate-severe regurgitation, and 3-dimensional transesophageal echocardiogram.

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